

Figure 1

### Remarks

The Examiner has asserted that there are eight distinct inventions in the above-reference application. Group I consists of claims 1-10, 13-37, 40-44, 54-68 and 72, drawn to compounds linked to peptides or amino acids containing B<sup>10</sup>. Group II consists of claims 1-44, 49, 54-68 and

72, drawn to compounds linked to carbohydrates, nucleosides or carboranes containing B<sup>10</sup>. Group III consists of claims 1-9, 13-36, 40-44, 49, 54-68 and 72, drawn to compounds linked to a moiety different than in Group I or II containing B<sup>10</sup>. Group IV contains claims 24-43, 54-68 and 72 and is directed to compounds linked to a moiety that does not contain B<sup>10</sup>. Group V contains claims 69-71, drawn to a method of using the compounds in Group I. Group VI contains claims 69-71, drawn to a method of using the compounds in Group II. Group VII includes claims contains claims 69-71, drawn to a method of using the compounds in Group III. Group VIII contains claims 69-71, drawn to a method of using the compounds in Group IV.

The Examiner did not group claims 45-48 and 50-53 because he alleged that the claims were not properly dependent. In response to the Examiner's comments, Applicants have amended claims 45-49 such that the claims depend upon claims that include a detectable radionuclide; therefore, dependent claims 50-53 also depend upon claims that include a detectable radionuclide.

Applicants elect the claims defined by Group II, i.e. compounds linked to a residue of a carbohydrate, nucleoside or carborane containing B<sup>10</sup> derivatives, including newly amended claims 45-49 and 50-53. The Examiner is urged to combine the claims of Group II with the claims of Group VI, which are directed to methods of use of the compounds of Group II. If the Examiner finds that the compounds of Group II are patentable, then the methods claims of Group VI must also be patentable.

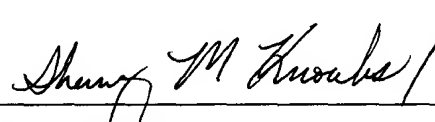
Applicants have cancelled claims 54-64 which do not include a boron-containing moiety and thus do not fall within the scope of the elected groups. Applicants have further cancelled claims 72-74 as they are European-type use claims.

Further, the Examiner has requested that the applicants select a species to begin his search. Applicants elect the species that is compound (5) in Figures 2 and 3. Applicants would like to remind the Examiner that upon allowance of a generic claim, Applicants are entitled to consideration of claims to additional species within the limitations of the generic claim.

Finally, the Examiner has asserted that there is an error in Figure 1. In response to the Examiner's comments, Applicants have amended Figure 1.

Enclosed hereto is a marked up version of the changes made by the current amendment, in accordance with 37 CFR §1.121 (c). The enclosed page is captioned "Version with Markings to Show Changes Made."

Respectfully submitted,

 by express  
permission  
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Enclosure: Marked up version of amendment

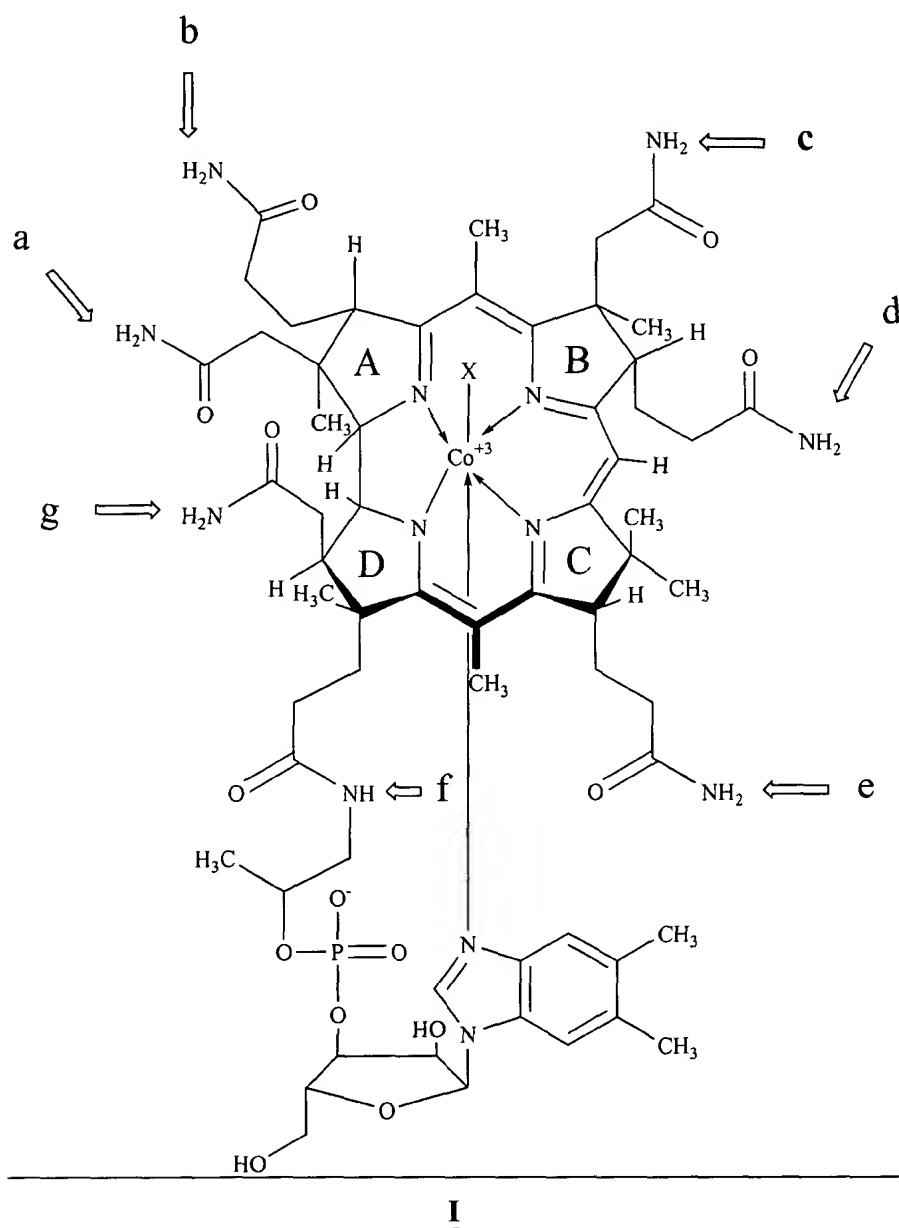
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Version with Markings to Show Changes Made

In the Claims

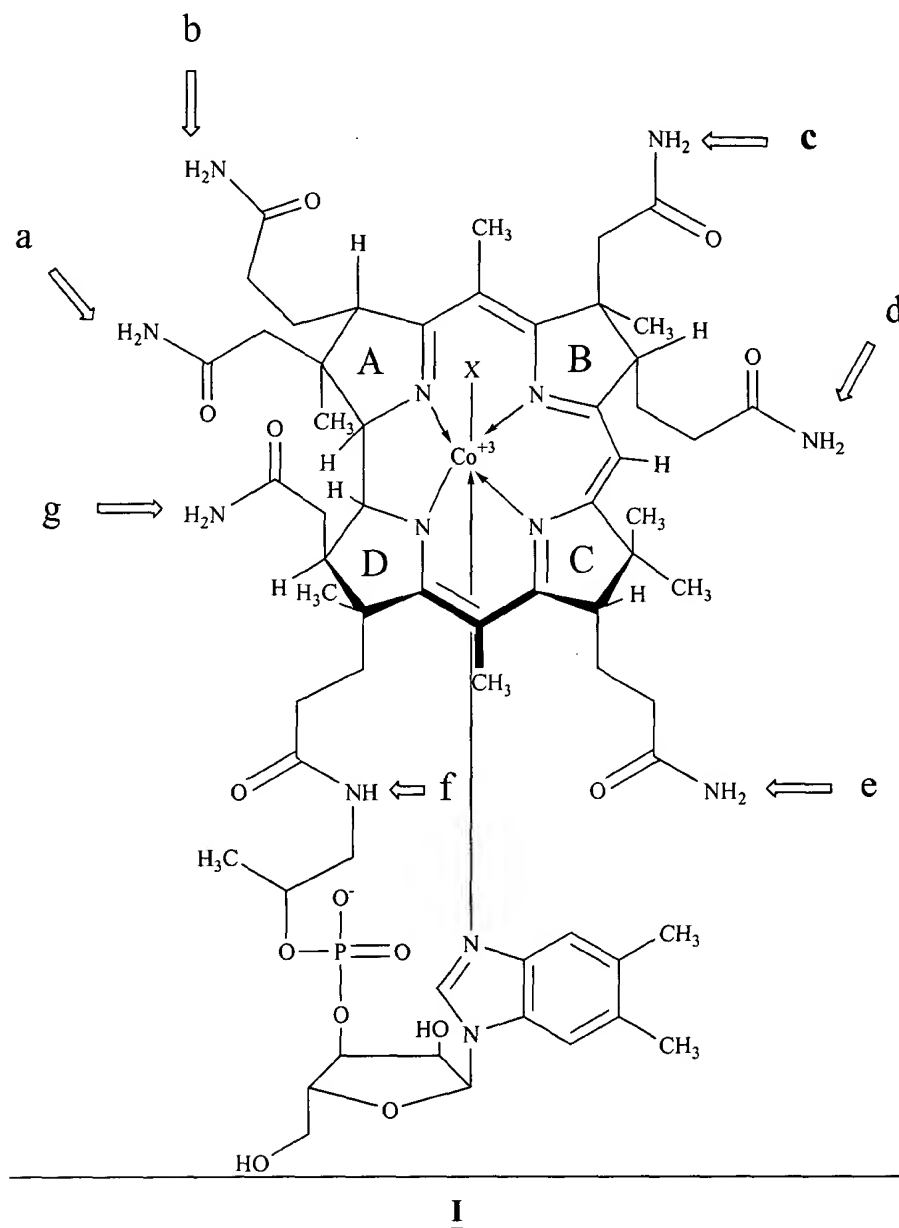
Claims 1, 25, 31, 45-49, 65, 66 and 68-70 have been amended as follows:

1. (Once Amended, Marked Up) A [compound wherein a] residue of a compound of formula I [(Figure 1)]



[is] linked to a residue of a molecule comprising B-10, wherein X is CN, OH, CH<sub>3</sub>, adenosyl or a molecule comprising B-10; or a pharmaceutically acceptable salt thereof.

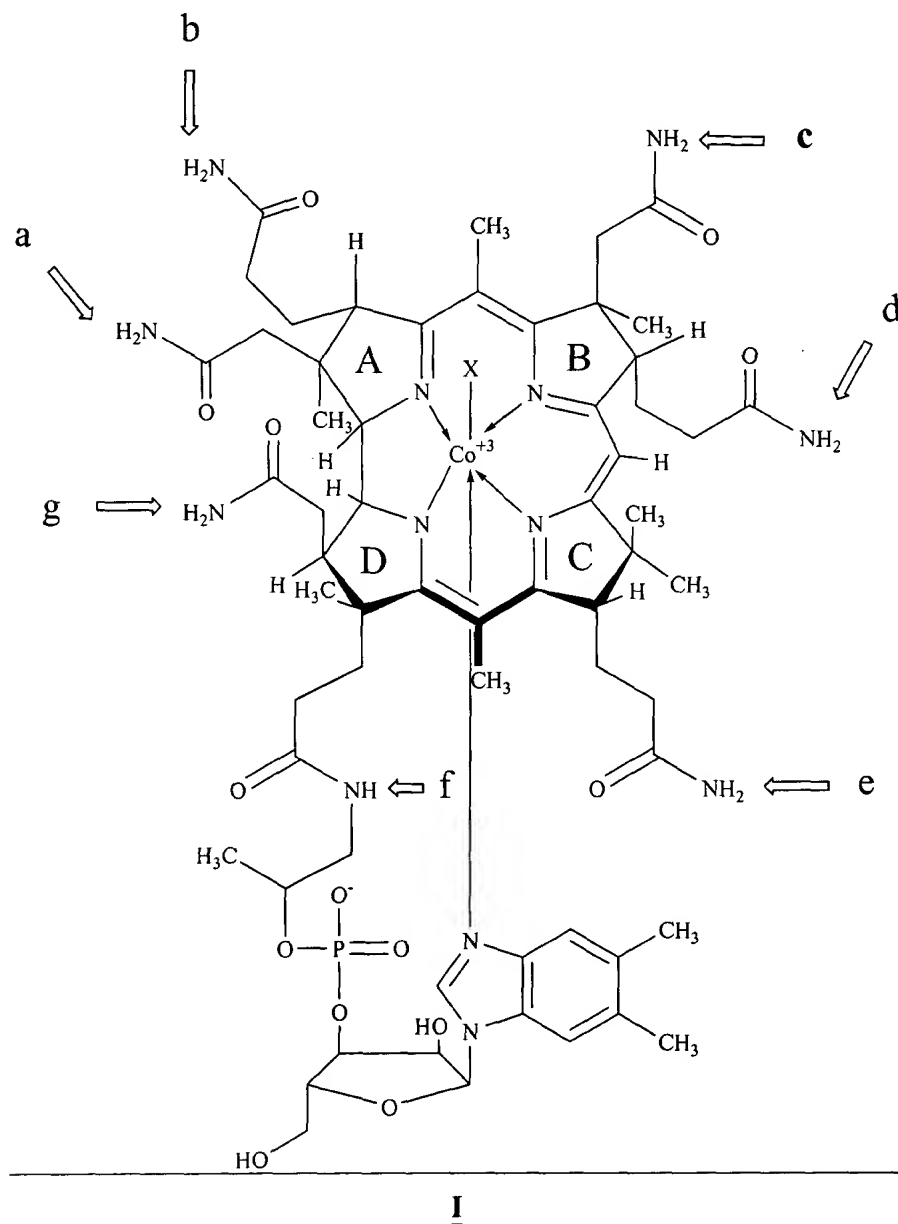
25. (Once Amended) A ~~compound wherein a~~ residue of a compound of formula I  
 [(Figure 1)]



[is] linked to a group of the formula Q-L-W-Det, wherein X is CN, OH, CH<sub>3</sub>, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein Det is a chelating group comprising

Gd-157; L is a linker or absent; and W and Q are each independently  $-N(R)C(=O)-$ ,  $-C(=O)N(R)-$ ,  $-OC(=O)-$ ,  $-C(=O)O-$ ,  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-N(R)-$ ,  $-C(=O)-$ , or a direct bond; wherein each R is independently H or  $(C_1-C_6)$ alkyl; or a pharmaceutically acceptable salt thereof.

31. (Once Amended, Marked Up) A ~~compound wherein a~~ residue of a compound of formula I ~~[(Figure 1)]~~



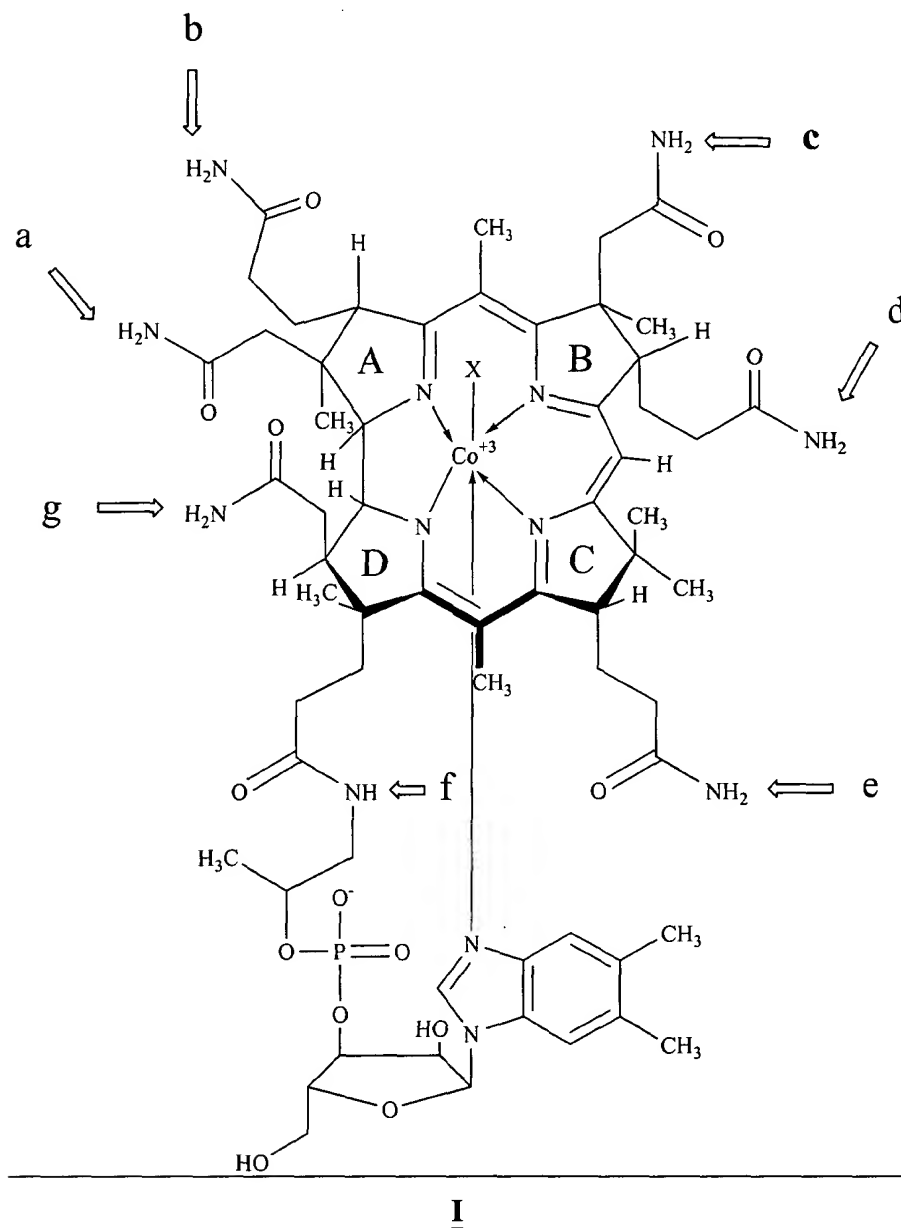
[is] linked to a residue of a molecule comprising B-10; wherein [a] the residue of the compound of formula I is linked to a group of the formula Q-L-W-Det, wherein X is CN, OH, CH<sub>3</sub>, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein

- 1) Det is a chelating group comprising a therapeutic radionuclide or a diagnostic radionuclide;
- 2) L is a linker or absent; and
- 3) Q and W are each independently -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -S(O)<sub>2</sub>-, -C(=O)-, -N(R)-, or a direct bond; wherein each R is independently H or (C<sub>1</sub>-C<sub>6</sub>)alkyl;

or a pharmaceutically acceptable salt thereof.

45. (Once Amended, Marked Up) The compound of claim [2] 44, wherein the detectable radionuclide is a non-metallic radionuclide.
46. (Once Amended) The compound of claim [3] 45, wherein the non-metallic radionuclide is Carbon-11, Fluorine-18, Bromine-76, Iodine-123 or Iodine-124.
47. (Once Amended) The compound of claim [2] 44, wherein the detectable radionuclide is directly linked to the compound of formula I.
48. (Once Amended) The compound of claim [2] 44, wherein the detectable radionuclide is linked by a linker to the compound of formula I.
49. (Once Amended) The compound of claim [6] 48, wherein the linker is of the formula W-A wherein A is (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, or (C<sub>6</sub>-C<sub>10</sub>)aryl, wherein W is -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -S(O)<sub>2</sub>-, -N(R)-, -C(=O)-, or a direct bond; wherein each R is independently H or (C<sub>1</sub>-C<sub>6</sub>)alkyl, and wherein A is substituted with one or more non-metallic radionuclides.

65. (Once Amended, Marked Up) A ~~compound wherein a~~ residue of a compound of formula I ~~(Figure 1)~~



[is] linked

- 1) to a molecule comprising B-10 or a chelating group comprising Gd-157; and
- 2) to at least one residue of the formula Q-L-W-Det, wherein X is CN, OH, CH<sub>3</sub>, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein each Det is



independently a chelating group comprising a metallic radionuclide; each L is independently a linker or absent; and each W and Q are each independently -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -S(O)<sub>2</sub>-, -C(=O)-, -N(R)-, or a direct bond; wherein each R is independently H or (C<sub>1</sub>-C<sub>6</sub>)alkyl;

or a pharmaceutically acceptable salt thereof.

66. (Once Amended) The compound of claim 1 or 44, wherein the residue of [a] the compound of formula I is also linked to a group comprising Gd-157.
68. (Once Amended) A pharmaceutical composition comprising a compound of any one of claims [~~1-67~~] 1-53 or 65-67 and a pharmaceutically acceptable carrier.
69. (Once Amended) A method of treating a tumor in a mammal in need of such treatment comprising administering to the mammal an effective amount of a compound of any one of claims [~~1-67~~] 1-53 or 65-67 in combination with a pharmaceutically acceptable vehicle; and administering neutron capture therapy.
70. (Once Amended) A method for imaging a tumor in a mammal comprising administering to the mammal a detectable amount of a compound of any one of claims [~~1-67~~] 1-53 or 65-67; and detecting the presence of the compound.